



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,238	09/28/2005	Hideto Kamimura	278507US0PCT	4244
22850 7590 07/14/2009 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER GOLOBOY, JAMES C	
			ART UNIT	PAPER NUMBER
			1797	
			NOTIFICATION DATE	DELIVERY MODE
			07/14/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No. 10/551,238	Applicant(s) KAMIMURA ET AL.	
	Examiner James Goloboy	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6-18 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-18, 20-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's amendment filed 6/30/09 overcomes the rejections set forth in the office action mailed 2/3/09. New rejections of claims 1-3 and 6-19 over the references of record necessitated by the amendment are set forth below. Newly added claims 20-24 are also rejected below.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/30/09 has been entered.

Claim Rejections - 35 USC § 103

3. Claims 1-3, 6-7, 11, 14-15, and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suekuni in view of Papay in light of the evidence provided by KIC Chemicals.

In column 1 lines 5-7, Suekuni discloses a conductive lubricant. In column 1 lines 58-64, Suekuni discloses that the lubricant comprises an ester base oil and from 0.1 to 5% by weight of an antistatic additive. In column 2 lines 51-64 Suekuni discloses that the ester base oil can be dioctyl sebacate, an ester as recited in claim 6, which has a

Art Unit: 1797

viscosity and overlapping the ranges recited in claims 1-2, a viscosity index within the range recited in claim 1 and encompassing the range recited in claim 3, and a flash point of 215° C, within the range recited in claim 1. Dioctyl sebacate also meets the limitations of the diester of a dibasic acid and a monohydric alcohol of claim 7. While Suekuni does not explicitly disclose the volume resistivity of the composition, it is clear from column 1 lines 30-42 (where an oil with a resistivity of 1.2×10^9 ohm·cm is said to have a disadvantageously high resistivity) and the characterization of the lubricant as a conductive lubricant that the volume resistivity of the composition meets the limitation of claim 1. In column 3 lines 48-56, Suekuni discloses that the antistatic additive can be an amine derivative, as recited in claims 5 and 11. In column 2 lines 53-54 Suekuni discloses that the composition can contain an antioxidant, as recited in claim 14, and in column 1 lines 5-7 Suekuni discloses that the composition is a bearing oil, as recited in claim 15.

Suekuni does not disclose the pour point of the composition. However, KIC Chemicals discloses that the pour point of the dioctyl sebacate base oil of Suekuni is -62° C. The composition of Suekuni will therefore meet the pour point limitation of the claims.

The difference between Suekuni and the currently presented claims is that Suekuni does not further disclose the inclusion of a phosphate-based friction modifier.

Papay, from column 46 line 51 through column 47 line 12, discloses suitable friction modifiers for use in lubricating compositions. In column 47 line 2, Papay discloses aliphatic phosphates, a phosphate meeting the limitations of amended claim

Art Unit: 1797

1, as a friction modifier. In column 44 lines 15-19 Papay discloses that phosphates can also be included as antiwear additives. Papay discloses tricresyl phosphate, meeting the limitations of claims 20 and 23-24, as a suitable phosphate. In column 44 lines 23-36 Papay discloses amine phosphate antiwear agents meeting the limitations of claims 21-22.

It would have been obvious to one of ordinary skill in the art to include the phosphate friction modifiers and antiwear additives of Papay in the composition of Suekuni, to adjust the friction between the lubricated parts and to reduce wear of the lubricated parts.

4. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suekuni in view of Papay in light of the evidence provided by KIC Chemicals as applied to claims 1-3, 6-7, 11, 14-15, and 20-24 above, and further in view of Tagliamonte.

The discussion of Suekuni, Papay, and KIC Chemicals in paragraph 3 above is incorporated here by reference. Suekuni and Papay disclose a composition meeting the limitations of claim 11, but does not disclose a composition further comprising a condensate of tetraethylenepentamine and a fatty acid.

In column 2 lines 28-34, Tagliamonte discloses a lubricating composition comprising a friction modifier. In column 8 lines 43-46 Tagliamonte discloses that a preferred friction modifier is the reaction product of tetraethylenepentamines and isostearic acid, meeting the limitations of the amine derivative of claim 12. While Tagliamonte discloses the compound as a friction modifier rather than an antistatic

Art Unit: 1797

agent, the compound is capable of acting as an antistatic agent and therefore meets the limitations of claim 12. In column 9 lines 24-29, Tagliamonte discloses that the composition preferably comprises 0.25 to 0.75% by weight of the friction modifier, within the range recited for the amine derivative of claim 12. The addition of the tetraethylenepentamine/isostearic acid condensate of Tagliamonte to the composition of Suekuni and Papay therefore meets the limitations of claim 12.

It would have been obvious to one of ordinary skill in the art to include the tetraethylenepentamine/isostearic acid condensate of Tagliamonte in the composition of Suekuni and Papay, in order to adjust the frictional performance of the bearing being lubricated by the composition.

5. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suekuni in view of Papay in light of the evidence provided by KIC Chemicals as applied to claims 1-3, 6-7, 11, 14-15, and 20-24 above, and further in view of Baba.

The discussion of Suekuni and Papay in paragraph 3 above is incorporated here by reference. Suekuni and Papay disclose a bearing oil composition meeting the limitations of claim 1 but not further containing the reaction product of tetraethylenepentamine and stearic acid.

Baba, from page 1 line 28 through page 2 line 3, discloses a lubricating composition having excellent anti-rust properties. On page 15 lines 22-25, Baba discloses that the composition can be a bearing oil. On page 2 lines 24-26 Baba discloses that the composition comprises a polyalkylenepolyamide. In the examples on

Art Unit: 1797

pages 17-21, Baba discloses polyalkylenepolyamides that are the reaction product of tetraethylenepentamine with mixtures of stearic and isostearic acid. These products therefore contain the additive recited in claims 17-18, and the addition of the additive mixture of Baba to the composition of Suekuni and Papay meets the limitations of the claim.

It would have been obvious to one of ordinary skill in the art to include the additive mixture of Baba in the composition of Suekuni and Papay, as Baba teaches that it is an effective antirust additive for bearing oil compositions.

6. Claims 1-3, 6, 8, 13, 16, and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denpo in view of Bialas and Papay.

In paragraph 7, Denpo discloses a rolling device covered in a conductive lubricating oil with a volume resistivity below 1×10^7 ohm·cm, within the range recited in claim 1. In paragraph 14, Denpo discloses that the lubricating oil can be an ester, as recited in claim 6, or an ether, as recited in claim 8. While Denpo does not specifically disclose the viscosity, viscosity index, pour point, or flash point of the lubricating oil, Denpo does disclose in paragraph 14 that the choice of lubricating oil is not particularly limited, and therefore implicitly discloses ranges of viscosities, viscosity indices, pour points, and flash points encompassing the claimed ranges. The differences between Denpo and the currently presented claims are:

i) In paragraph 10 Denpo discloses that the composition contains a surfactant which is effective as an antistatic agent, but does not disclose the specific antistatic agents recited in amended claim 1.

ii) Denpo does not disclose the inclusion of a phosphate-based friction modifier.

With respect to i), Bialas, in column 7 line 54 through column 8 line 33, teaches that antistatic agents for lubricants can be surfactants, including glycerol mono- or dioleates (column 7 lines 56-57) which are polyhydric alcohol partial esters as recited in amended claim 1, sulfosuccinates (column 8 lines 26-28), which are succinic acid derivatives as recited in amended claim 1 and newly added claim 16. The use of these surfactants/antistatic agents of Bialas in the composition of Denpo meets the limitations of claims 1-3, 6, 8, and 13.

With respect to ii), Papay, from column 46 line 51 through column 47 line 12, discloses suitable friction modifiers for use in lubricating compositions. In column 47 line 2, Papay discloses aliphatic phosphates, a phosphate ester meeting the limitations of amended claim 1, as a friction modifier. In column 44 lines 15-19 Papay discloses that phosphates can also be included as antiwear additives. Papay discloses tricresyl phosphate, meeting the limitations of claims 20 and 23-24, as a suitable phosphate.

It would have been obvious to one of ordinary skill in the art to include the surfactants/antistatic agents of Bialas in the composition of Denpo, as Bialas teaches that they are suitable antistatic agents for lubricating compositions. It would have been further obvious to include the phosphate friction modifiers and antiwear agents of Papay

Art Unit: 1797

in the composition of Denpo, to adjust the friction between the lubricated parts and to reduce wear of the lubricated parts.

7. Claims 1, 4, and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denpo in view of Bialas and Papay as applied to claims 1-3, 6, 8, 13, 16, and 20-24 above, and further in view of Egawa.

The discussion of Denpo, Papay, and Bialas in paragraph 6 above is incorporated here by reference. Denpo, Papay, and Bialas disclose a composition meeting the limitations of claim 8, but does not disclose specific suitable ethers.

An English translation of Egawa, which is attached, has been used in setting forth this rejection. Egawa, in paragraphs 6-7, discloses an ether base oil which meets the limitations of the ethers of claims 9-10 when n is 0 (claim 10), or 0-8 (claim 9). Egawa discloses that the viscosity index is 150 or more, within the range recited in claim 1, and that the pour point is less than -10° C, encompassing the range recited in claim 4.

It would have been obvious to one of ordinary skill in the art to use the ether of Egawa as the lubricating oil of Denpo, Papay, and Bialas as Egawa teaches that it is a suitable ether lubricating oil.

8. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denpo in view of Papay and Bialas as applied to claims 1-3, 6, 8, 13, 16, and 20-24 above, and further in view of Baba.

The discussion of Denpo in view of Papay and Bialas n paragraph 6 above is incorporated here by reference. Denpo, Papay, and Bialas disclose a bearing oil composition meeting the limitations of claim 1 but not further containing the reaction product of tetraethylenepentamine and stearic acid.

Baba, from page 1 line 28 through page 2 line 3, discloses a lubricating composition having excellent anti-rust properties. On page 15 lines 22-25, Baba discloses that the composition can be a bearing oil. On page 2 lines 24-26 Baba discloses that the composition comprises a polyalkylenepolyamide. In the examples on pages 17-21, Baba discloses polyalkylenepolyamides that are the reaction product of tetraethylenepentamine with mixtures of stearic and isostearic acid. These products therefore contain the additive recited in claims 17-18, and the addition of the additive mixture of Baba to the composition of Denpo, Papay, and Bialas meets the limitations of the claim.

It would have been obvious to one of ordinary skill in the art to include the additive mixture of Baba in the composition of Denpo, Papay, and Bialas, as Baba teaches that it is an effective antirust additive for bearing oil compositions.

Response to Arguments

9. Applicant's arguments have been fully considered but they are not persuasive. Applicant argues that Papay does not disclose amine salts of phosphates. However, Papay does disclose amine phosphate antiwear agents as discussed above. Applicant further argues that Papay is non-analogous art to Suekuni and Denpo because it is not

Art Unit: 1797

directed towards a conductive lubricant. However, lubricant additives find use in multiple types of lubricants, and one of ordinary skill in the art would have had a reasonable expectation of success in using the additives of Papay in the compositions of Suekuni and Denpo. Applicant argues that the inventive compositions give excellent volume resistivity, but has not provided sufficient evidence commensurate with the scope of the claims in order to rebut the *prima facie* case of obviousness.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Goloboy whose telephone number is (571)272-2476. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1797

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JCG

/Glenn A Caldarola/
Acting SPE of Art Unit 1797